

LAP

Approved For Release 2000/06/19 : CIA-RDP80-01003A000100110002-1

OFFICE OF JOINT COMPUTER SUPPORT

COMPUTER SYSTEMS PLAN

REVIEW

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OBJECTIVES OF PLAN

- IMPROVE CAPABILITY  
TECHNOLOGY  
FUTURE SYSTEMS  
HARDWARE/SOFTWARE MIXTURES  
VENDORS  
PERSONNEL
- IMPROVE RELIABILITY
- REDUNDANCY
- REDUCE COSTS
- SECURITY (CAMS, ETC.)

S E C R E T

CURRENT

COMPUTER SYSTEMS

1	IBM 360/195	(2M BYTES MEMORY)
2	IBM 360/65	(1.5M + 2.5M BYTES MEMORY)
1	IBM 360/67	(1M BYTES MEMORY)
2	IBM 370/158	(2M + 3M MEMORY)
2	IBM 360/20	
2	PDP 11	
2	PLOTTERS	
1	PAGE READER	

PERIPHERALS

178	DISK DRIVES (SPINDLES)
40	TAPE DRIVES
9	PRINTERS
6	CARD READER/PUNCHES
10	REMOTE LINE PRINTERS/CARD READERS
8	DRUMS

TERMINALS

205	CRT TERMINALS
160	HARD COPY TERMINALS

S E C R E T

**SECRET**

ADP EQUIPMENT RENTALS  
(THOUSANDS OF DOLLARS)

<u>SYSTEM</u>	<u>FY-75</u>	<u>FY-76</u>
*IBM 360/65-1	116	137
*IBM 360/65-2	192	192
*IBM 360/67-1	50	50
IBM 360/195	2,277	2,649
IBM 370/158-1	558	692
IBM 370/158-2	529	705
IBM 370/158-3	697	765
IBM 370/158-4	697	765
CONTEN 3670	61	177
PERIPHERALS	3,751	4,270
 TOTAL	 8,928	 10,402

NOTES

\*AGENCY OWNED SYSTEMS. RENTAL IS FOR CDC BLOCK MULTIPLEXOR AND 1 MILLION BYTES OF CDC MEMORY ON 65-1, 2 MILLION BYTES OF CDC MEMORY ON 65-2, AND AN IBM SELECTOR CHANNEL ON 67-1.

PERIPHERALS INCLUDE: TAPE UNITS, DRUMS, DISKS, CARD READERS, PUNCHES, PRINTERS, TERMINALS, SWITCHES, PLOTTERS, FORMS PRINTERS, EAM, ETC.

COMPUTER TERMINAL REQUIREMENTS

AS OF 30 JUNE

	1972	1973	1974	1975	1976	1977	1978
TOTAL INSTALLED	119	180	275	350	450	550	650
NUMBER OF ACTIVE TERMINALS DURING <u>PEAK PERIODS</u>							
CP/CMS	28	48	70	100	200	260	300
GIM II	5	12	16	32	45	55	65
*OTHER	12	12	12	12	12	12	12
TOTAL	45	72	98	144	257	327	277

\*SPECIALIZED SYSTEMS

SANCA, AEGIS, SHOEBOX, Etc.

BATCH PROCESSING

Average Daily Batch Workload Measured in IBM 360/65 Hours as of 30 June .

	1972 Jobs CPU	1973 Jobs CPU	1974 Jobs CPU	1975 Jobs CPU	1976 Jobs CPU	1977 Jobs CPU	1978 Jobs CPU
Small Jobs	750 16	900 18	1100 21	1300 25	1500 29	1700 33	1900 37
Long Jobs	30 20	50 45	60 66	70 79	80 92	90 105	100 118
TOTAL	780 36	950 63	1160 87	1370 104	1580 121	1790 138	2000 155

Notes: 1 - 370/195 CPU Hour = 7 - 360/65 CPU Hours

1 - 370/168 CPU Hour = 4 - 360/65 CPU Hours

A 360/195 was installed during the last quarter of FY-72.

CRS consolidation impact began in July 1973.

Short jobs are normally run during prime time and require quick turnaround.

Long jobs are normally run overnight and on weekends.

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COMPUTER SYSTEM USE AT MAJOR MILESTONES

No.	Date	On-Line Service		ASP-BATCH		System Inventory		
		CMS	Other Applications	Mains	Support	In	Out	Total
	Current	67-1	65-2, 158-1	195	65-1	-	-	5
1	Oct 74	67-1, 158-2	65-2, 158-1	195	65-1	158-2	-	6
2	Dec 74	158-2	65-2, 158-1, 67-1 (GIMS)	195	65-1	-	-	6
3	Jan 75		(Oracle Installed)					
4	Mar 75		(ASP 3.1 Conversion)					
5	Apr 75		(Oracle Accept. Test Completed)					
6	Jul 75	158-2	65-2, 158-1, 67-1	195, 168-1	65-1	168-1	-	7
7	Aug 75	158-2	65-2, 158-1, 65-1	195, 168-1	168-1	-	67-1	6
8	Sep 75	158-2	65-2, 158-1, 65-1	168-1, 168-2	168-1	168-2	195	6
9	Oct 75	158-2, 158-1	65-2, 65-1, 168-2	168-1, 168-2	168-1	-	-	6
10	Jan 76		(Oracle Production)					
11	Jul 76	158-1, 168-3	65-2, 65-1, 168-2, 158-2	168-1, 168-2	168-1	168-3	-	7
12	Jul 77	158-1, 168-3	65-2, 65-1, 168-2, 158-2, 168-4	168-1, 168-2	168-1	168-4	-	8
13	Oct 77	158-1, 168-3	168-2, 158-2, 168-4	168-1, 168-2	168-1	-	65-1&2	6
14	Jan 78	158-1, 168-3	168-2, 158-2, 168-4, 168-5	168-1, 168-2	168-1	168-5	-	7
15	Mar 78	158-1, 168-3	168-2, 168-4, 168-5	168-1, 168-2	168-1	-	158-2	6

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SECRET

SIGNIFICANT EVENTS SUBSEQUENT TO  
DEVELOPMENT OF INITIAL PLAN

- PLAN APPROVED BY DDM&S APRIL 1974
- UTILITIES & SPACE CONSTRAINTS
- \$ LIMITATIONS
- HIATUS IN TERMINAL INSTALLATIONS
- INFLATIONARY COST INCREASES
- GROWTH IN REQUIREMENTS CONTINUES
- NEW GSA/IBM SCHEDULE

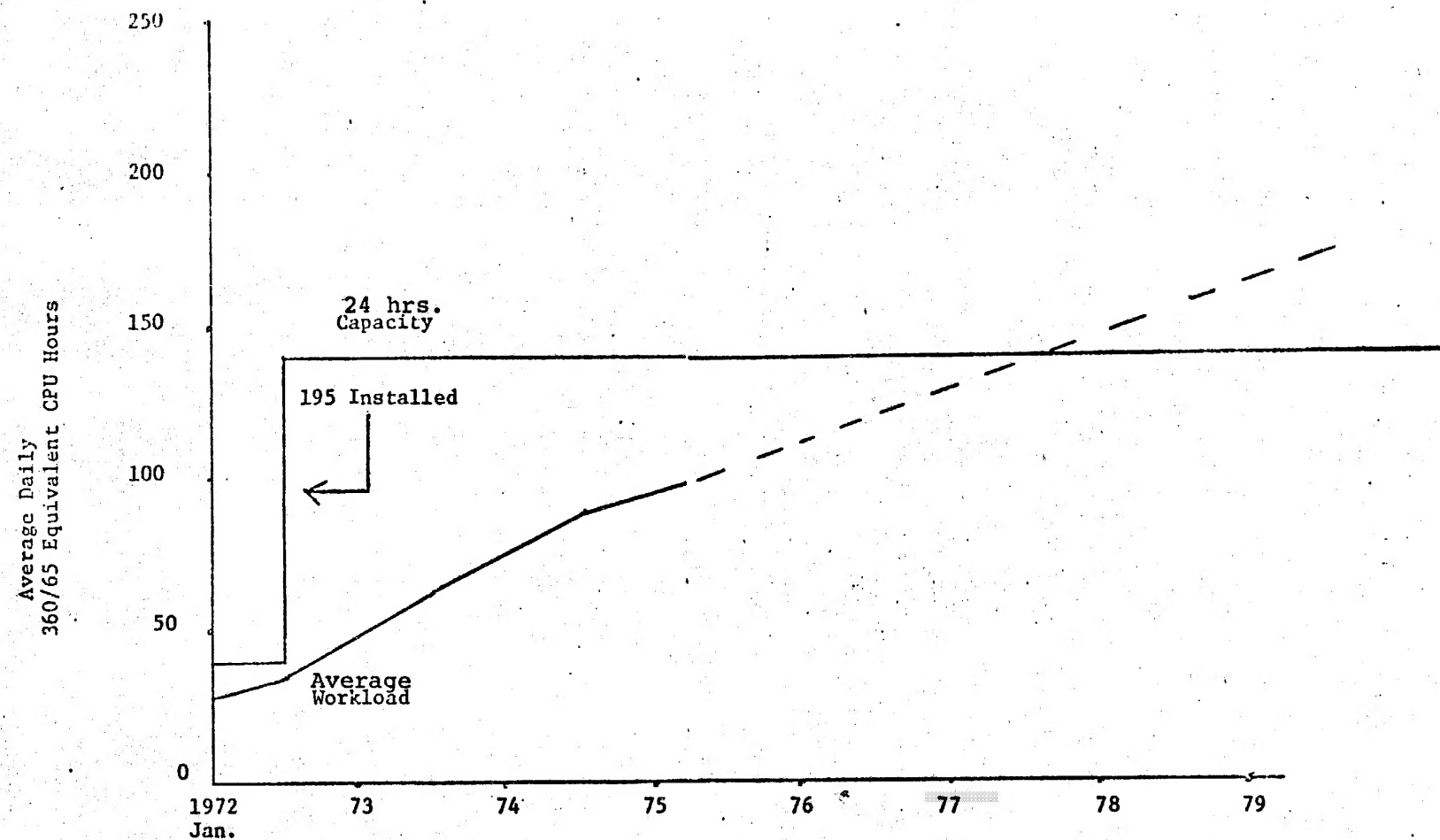
ALTERNATE PURCHASE PLAN (APP)

TERM LEASE PLAN (TLP)

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OJCS

BATCH DAILY WORKLOAD



1/30/75

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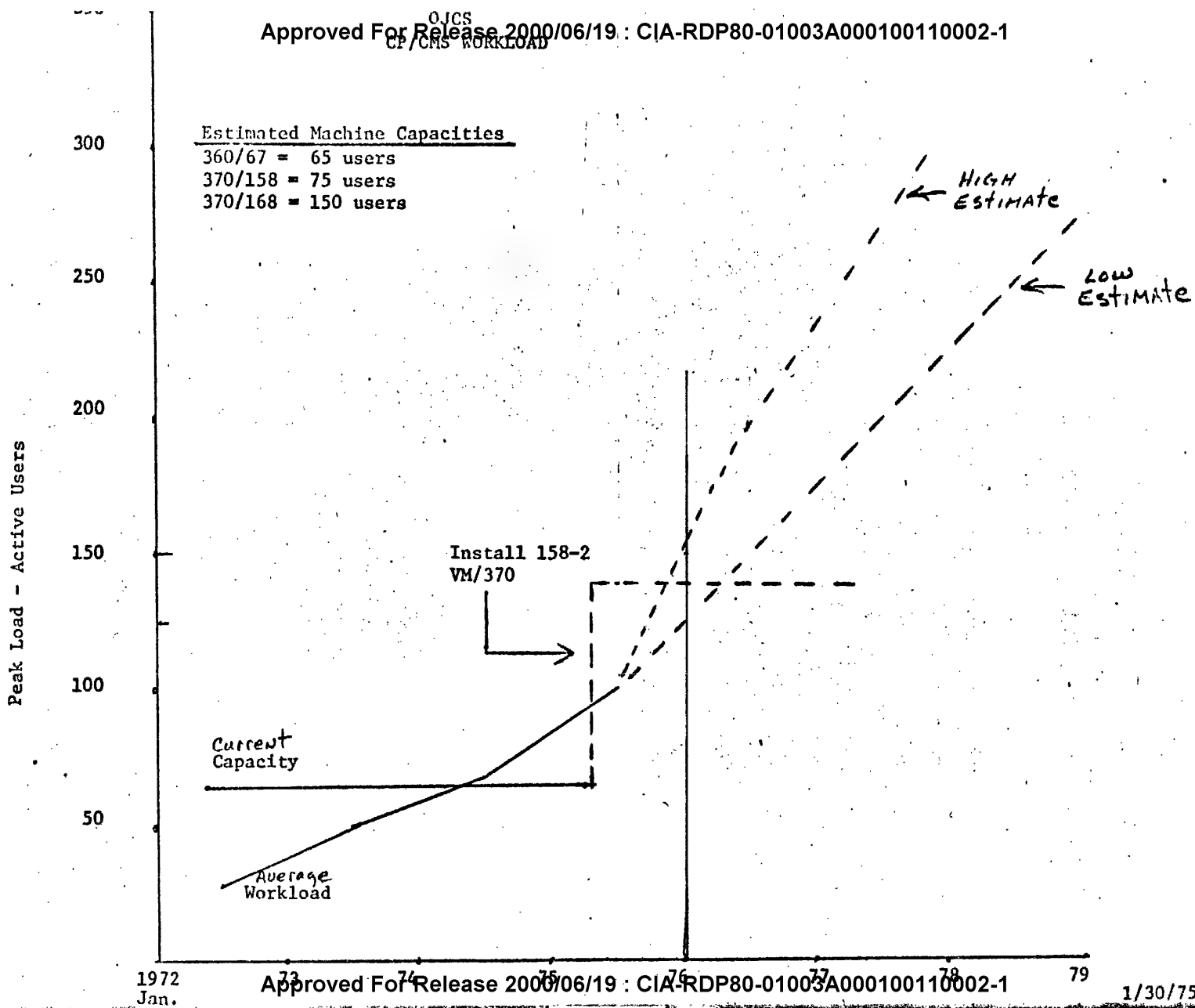
BATCH PROCESSING  
(JULY-DECEMBER 1974)

<u>PRIORITIES</u>	<u>MONTHLY AVERAGE</u>	<u>PERCENTAGE</u>
A	1450	5
B	40	-
C	15850	59
D	9380	35
E	250	1

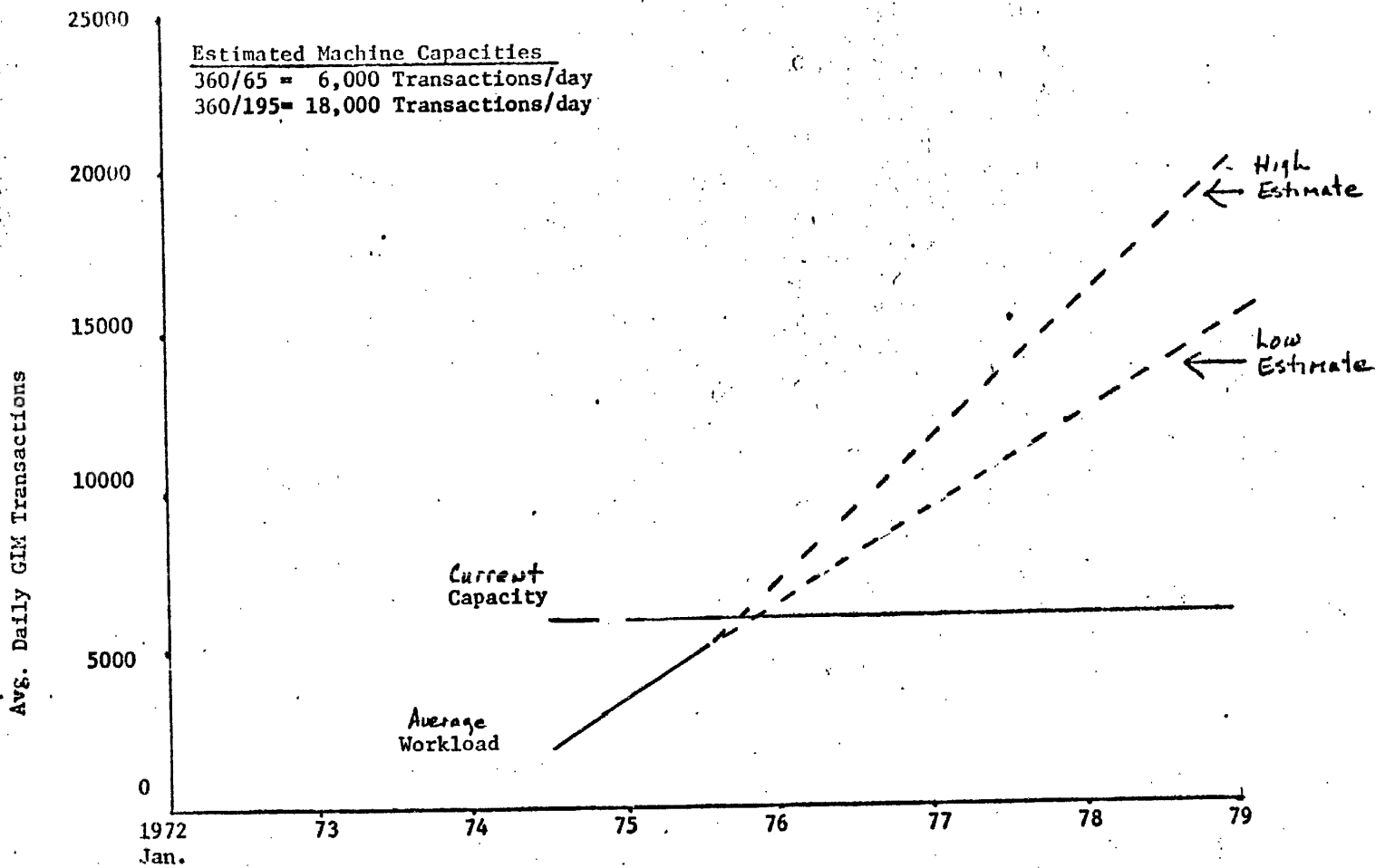
OJCS  
CP/CMS WORKLOAD

Estimated Machine Capacities

360/67 = 65 users  
370/158 = 75 users  
370/168 = 150 users



OJCS  
GIM PRODUCTION WORKLOAD

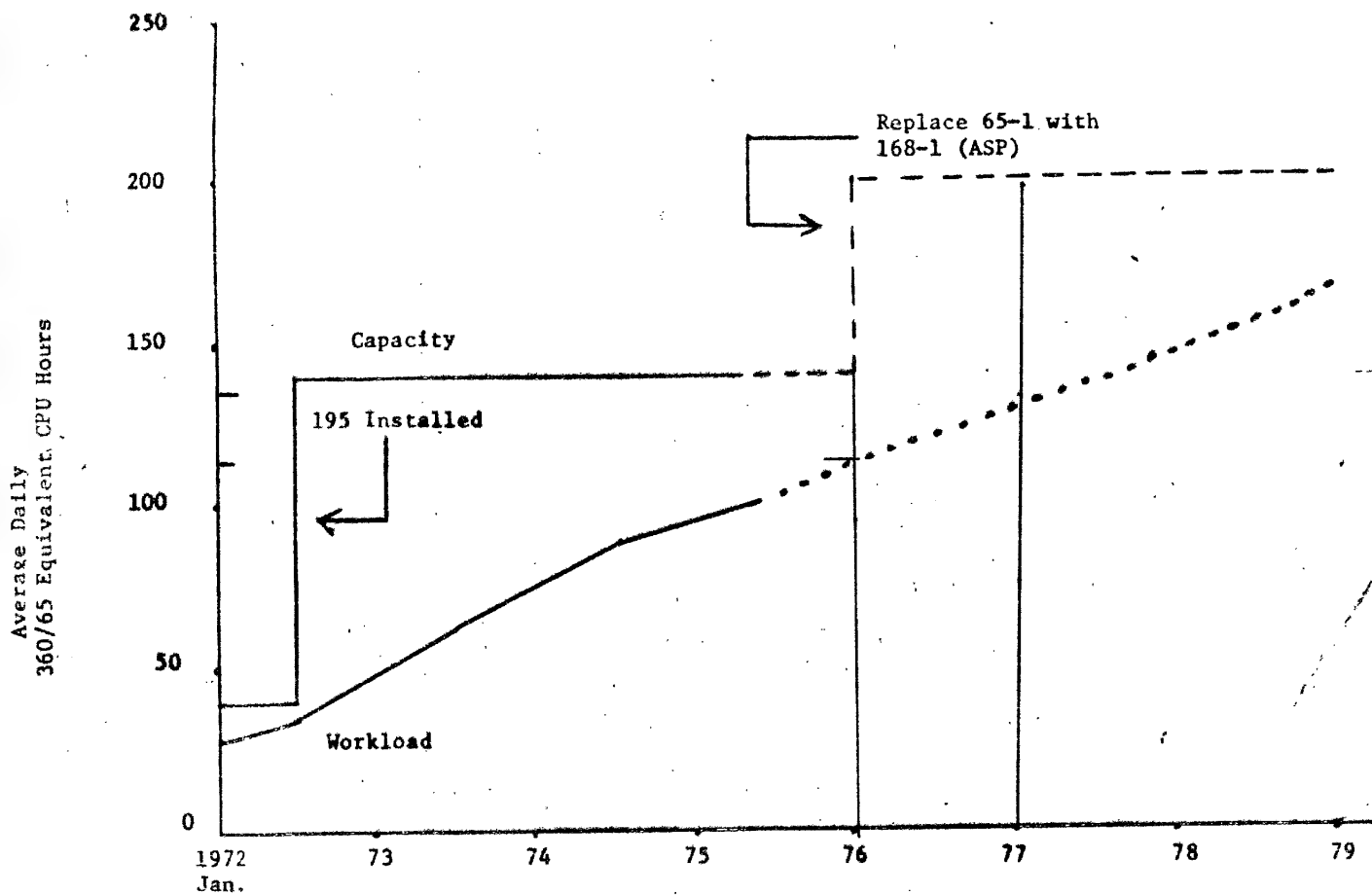


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OJCS COMPUTER SYSTEMS PLAN

Dates/ Phases	Description	System Changes		Configuration at End of Milestone				
		In	Out	Total CPUs	Batch	GIM	General Purpose Timesharing (CP/CMS)	Special Purpose TP
July 75 I	-Upgrade 158-1 for increased GIM load. -Begin testing of ORACLE.			6	360/195 360/65-1	360/65-2	360/67-1 370/158-2	370/158-1 (CRS)
Jan. 76 II	-Install 168-1 for batch and special purpose TP (CRS). -Release 158-1 in June. -Move 65-1 to GIM	168-1	158-1	6	360/195 370/168-1	360/65-1 360/65-2	360/67-1 370/158-2	
July 76 III	-Install 168-2 for time- sharing. -Free 67-1 for special projects. -ORACLE production.	168-2		7	360/195 370/168-1	360/65-1 360/65-2	370/158-2 370/168-2	360/67-1 (CAMS) (SPECLE II)
Jan 77 IV	-Install 168-3 for batch processing. -Move 195 to GIM. -Release 65-1 in March and 65-2 in Oct. for special purpose TP.	168-3		8	370/168-1 370/168-3	360/195	370/158-2 370/168-2	360/67-1 360/65-1 360/65-2 (CAMS) (SPECLE II)
Oct 77 V	-Install 168-4 for time- sharing and -Release the 158-2 -Implement multi- processor 168-4 batch load	168-4	158-2	8	370/168-2 370/168-3	360/195	370/168-1 370/168-2	360/67-1 360/65-1 360/65-2 (CAMS) (SPECLE II)

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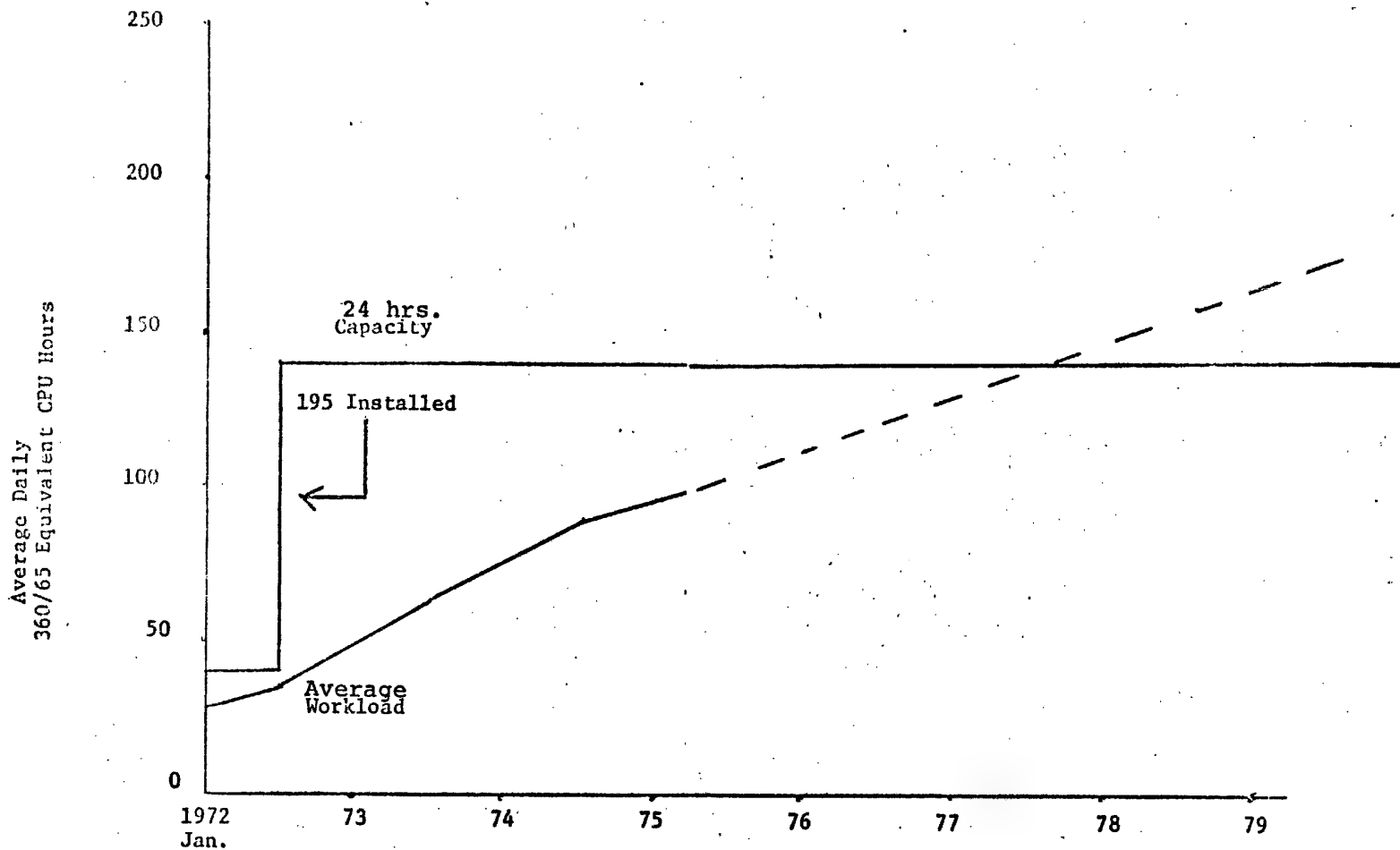
OJCS  
BATCH DAILY WORKLOAD



1/30/75

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OJCS  
BATCH DAILY WORKLOAD



1/30/75

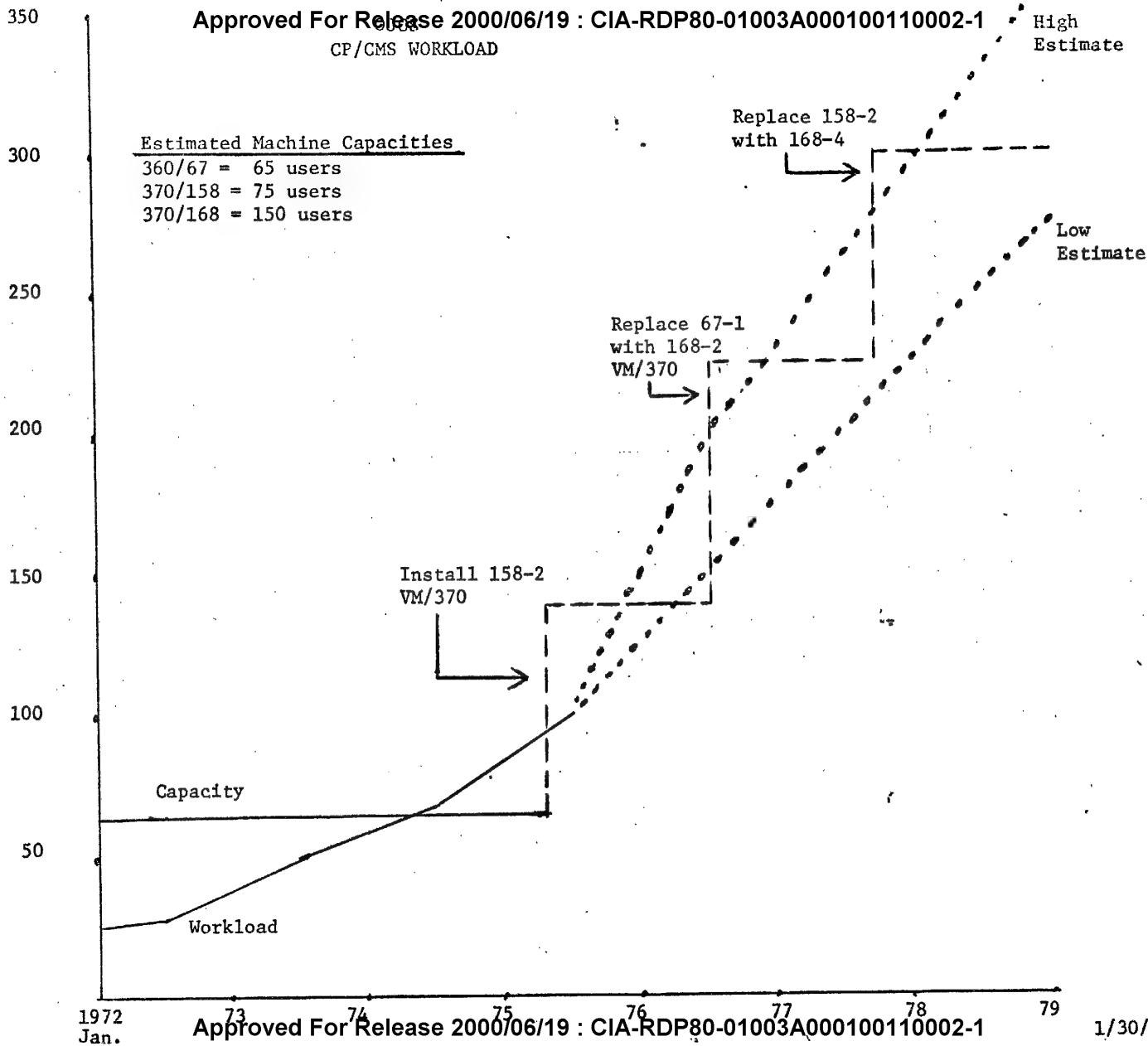
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CP/CMS WORKLOAD

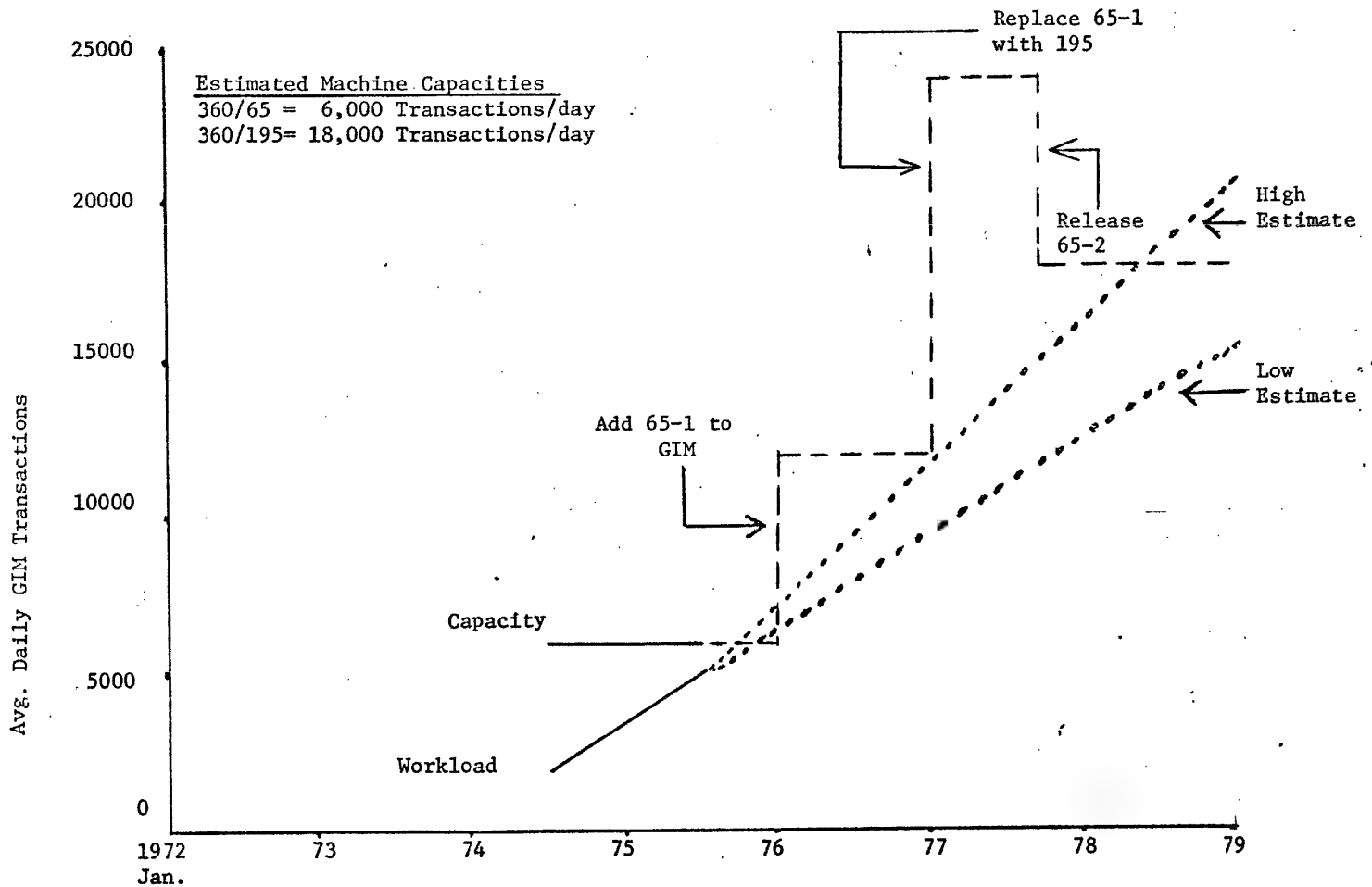
Estimated Machine Capacities

360/67 = 65 users  
370/158 = 75 users  
370/168 = 150 users

Peak Load - Active Users



OJCS  
GIM PRODUCTION WORKLOAD



1/30/75

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 30 January 1975

JANUARY 1975 SYSTEM PLAN:

*Rented*  
*Maint*  
*Purchase*  
*1500*  
*195*  
*2324*  
*16*  
*2777*  
*8689*  
*4957*  
*10,721*

TOTAL COST

System	Action	Type of Cost	FY-75	FY-76	FY-77	FY-78	FY-79	FY-80
195-1	APP 1 Mar 1975	<i>1500</i> Purchase <i>195</i> Rental <i>2324</i> Maintenance <i>16</i>	780 1,690 65	3,790 - 200	- - 210	- - 220	- - 230	- - 240
158-1	N.C.	Rental	600	<i>extra</i> 732	-	-	-	-
158-2	TLP 3/75	Rental	390	635	635	450	-	-
168-1	TLP	Rental	-	780	1,640	1,720	1,810	1,900
168-2	TLP	Rental	-	-	1,640	1,720	1,810	1,900
168-3	TLP	Rental	-	-	820	1,720	1,810	1,900
168-4	TLP	Rental	-	-	-	1,290	1,810	1,900
65-1	Pur 7/75	Maintenance Rental Purchase	19 96 -	32✓ - 94✓	34 - -	36 - -	38 - -	40 - -
65-2	Pur 7/75	Purchase Rental Maintenance	- 192 26	173✓ - 53✓	- - 56	- - 59	- - 62	- - 65
67-1	Pur 7/75	Purchase Rental Maintenance	- 50 38	100 <sup>103</sup> - 42 <sup>40</sup>	- - 44	- - 46	- - 48	- - 50
ORACLE	Mixed	Purchase Rental Maintenance	1,365 12 65	- 350 152	630 291 248	180 310 280	50 320 280	- 330 280
Peripherals	Mixed	Rental Purchase Maintenance	2,442 632 227	<i>NO KEY TO DISK</i> 2,473 800 315	2,200 1,519 416	2,065 1,591 523	2,250 1,600 625	2,500 1,600 730

GRAND TOTAL

8,689 10,721 10,383 12,210 12,743 13,435

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5.4

OJCS

ADP RENTALS, MAINTENANCE, AND PURCHASES IN OPERATIONS DIVISION  
PLUS ORACLE PROJECT

	<u>FY 1975</u>	<u>FY 1976</u>
CURRENT BUDGET:		
Rental	\$ 6,394	\$ 7,565
Maintenance	366	398
Purchase	379	614
ORACLE	<u>1,450</u>	<u>300</u>
TOTALS	\$ 8,589	\$ 8,877
Increase requested for June 74	100	1,970
System Plan and price increases	<u>          </u>	<u>          </u>
TOTALS	\$ 8,689	\$10,847
Estimated cost for January 75	8,689	10.721
System Plan	<u>          </u>	<u>          </u>
Net decrease from previous		-126
Requests		

(Thousands of Dollars)

DO WE WANT TO PROCEED WITH JUNE '74 SYSTEM PLAN?

- THE PLAN HAS BEEN UPDATED TO JANUARY 1975
- IT WILL STILL REQUIRE APPROXIMATELY THE SAME FUNDS IN FY-75 AND FY-76
- IT RETAINS THE 195 BECAUSE IT IS A POWERFUL SYSTEM THAT WE CAN CONTINUE TO USE AND PURCHASE IS FINANCIALLY ADVANTAGEOUS
- WE WOULD BUY MEMORY AND CHANNEL COMPONENTS THAT ARE STILL BEING RENTED WITH AGENCY-OWNED 65 AND 67 COMPUTERS. PURCHASE IS ONLY SLIGHTLY MORE THAN WE WILL PAY FOR RENTAL NEXT YEAR AND SYSTEMS CAN BE USED FOR FUTURE STAND-ALONE COMPUTER REQUIREMENTS
- 168'S WILL BE PHASED INTO OPERATIONS LATER THAN ORIGINALLY PLANNED
- WE SHOULD PROCEED WITH PLANS FOR ADDITIONAL COMPUTER SPACE AND INCREASED CENTRAL UTILITIES

30 January 1975

IBM 360/195 SYSTEM

Rental/Purchase Analysis for CPU,  
2MBM Memory, Channels and Drums

<u>DESCRIPTION</u>	<u>AMOUNT</u> <u>(Thousands)</u>
Continued Rental	\$2,500 per year
List Price	7,400
Rental Credits (1 March 1975)	<u>3,100</u>
Net Purchase Price (1 March 1975)	\$4,300
Cost with Alt. Pay. Plan:	
1 March 1975 Payment	780
1 July 1975 Payment	<u>3,790</u>
TOTAL	<del>\$</del> 4,570
Annual Maintenance	\$ 200
Potential GSA ADP Funds for Purchase	\$ 590

ARE WE PREPARED TO EXECUTE THE PLAN?

- THE JANUARY 75 PLAN CAN BE IMPLEMENTED, IF OJCS GETS THE \$1.9 MILLION IT HAS ASKED FOR IN FY-76 AND OL GETS FY-75 AND FY-76 MONEY FOR SPACE AND UTILITIES.
- SPACE AND UTILITIES MUST BE AVAILABLE BY APRIL-MAY 1976.

ALTERNATIVES

- SPREAD PURCHASE PAYMENTS FOR 195 OVER MORE FISCAL YEARS, COULD REDUCE FY-76 COSTS MORE THAN 2 MILLION. INCREASES INTEREST COSTS.
- DEFER PHASING IN OF 168 COMPUTERS. IMPACTS ON CAPACITY NEEDED FOR GIMS AND TIME-SHARING USERS.